ABSTRACT OF THE DISCLOSURE

This invention comprises deposition of thin film photovoltaic junctions on metal substrates which can be heat treated following deposition in a continuous fashion without deterioration of the metal support structure. In a separate operation an interconnection substrate structure is produced in a continuous roll-to-roll fashion. In this way the interconnection substrate structure can be uniquely formulated from polymer-based materials since it does not have to endure high temperature exposure. Cells comprising the metal foil supported photovoltaic junctions are then laminated to the interconnection substrate structure. Conductive interconnections are deposited to complete the array. The conductive interconnections can be accomplished with a separately prepared interconnection component. The interconnected array is produced using continuous roll-to-roll processing which avoids the need to use the expensive and intricate material removal operations currently taught in the art to achieve electrical interconnections among arrays of photovoltaic cells.